



Annex X Truckee Fire Protection District

X.1 Introduction

This Annex details the hazard mitigation planning elements specific to Truckee Fire Protection District (Truckee FPD), a previously participating jurisdiction to the 2016 Placer County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to Truckee FPD, with a focus on providing additional details on the risk assessment and mitigation strategy for this District.

X.2 Planning Process

As described above, the District followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the District formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table X-1. Additional details on plan participation and District representatives are included in Appendix A.

Table X-1 Truckee FPD – Planning Team

Name	Position/Title	How Participated
Bill Seline	Fire Chief	Attended meetings, provided hazard identification table. Provided information on vulnerability of the District to hazards of concern.
Rod Brock	Div. Chief	Review of local hazards, priorities and possible mitigation
Jeff Dowling	Forester	CWPP, Maps, projects concerning wildfire mitigations and fuel reduction
Kevin McKechnie	Fire Marshal	Review of local hazards, priorities and possible mitigation

Coordination with other community planning efforts is paramount to the successful implementation of this LHMP Update. This section provides information on how the District integrated the previously approved 2016 Plan into existing planning mechanisms and programs. Specifically, the District incorporated into or implemented the 2016 LHMP through other plans and programs shown in Table X-2.

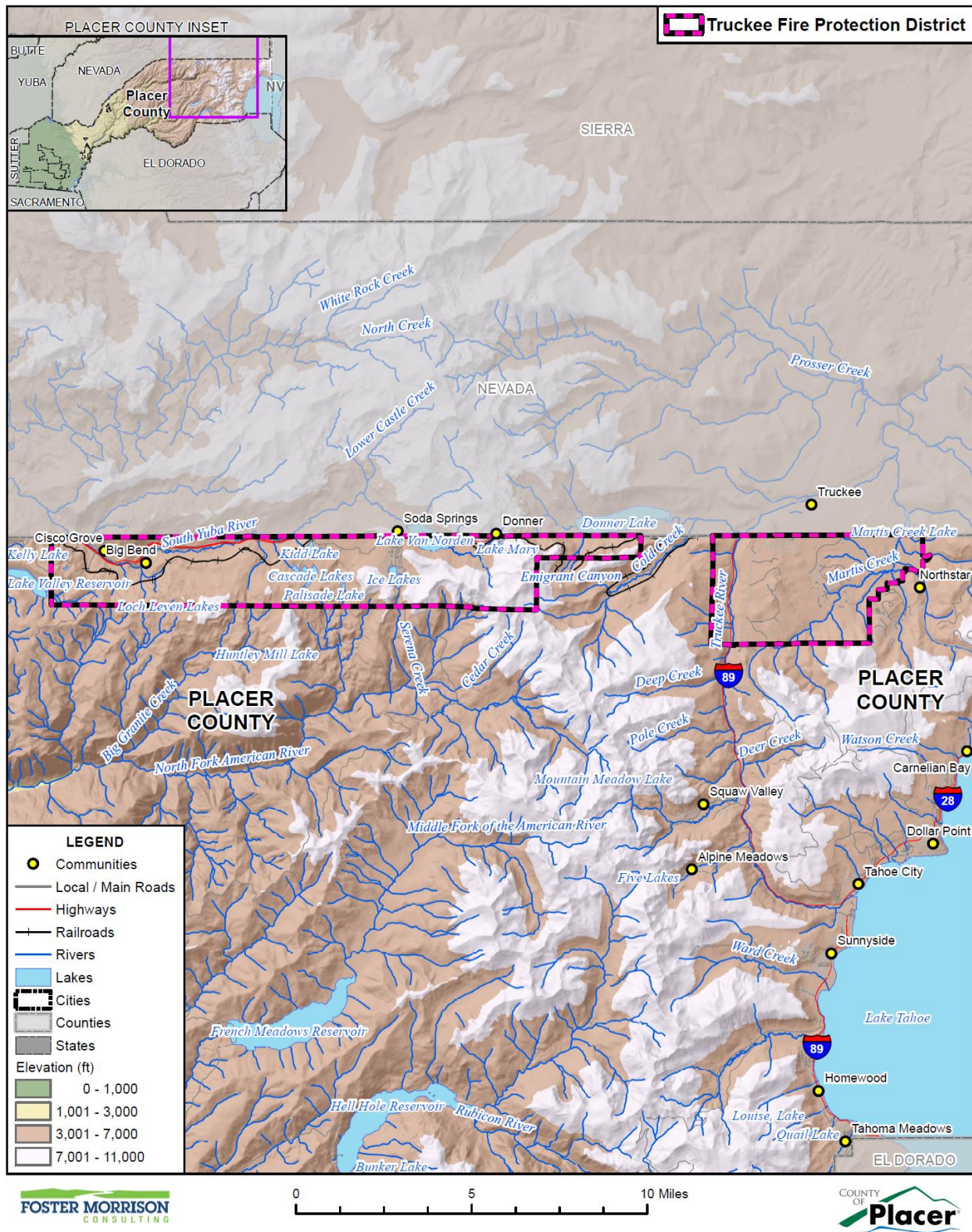
Table X-2 2016 LHMP Incorporation

Planning Mechanism 2016 LHMP Was Incorporated/Implemented In.	Details: How was it incorporated?
N/A	No mitigation planning mechanisms have been completed since 2016

X.3 District Profile

The District profile for the Truckee FPD is detailed in the following sections. Figure X-1 displays a map and the location of the District within Placer County.

Figure X-1 Truckee FPD



X.3.1. Overview and Background

Truckee FPD is officially responsible for 125 square miles and is one of the oldest fire districts in the Truckee Tahoe area of Northern California. A public agency, supported by public funds, the District operates under Fire District Law established in 1987 and is an independent Special District.

The District's business is the protection of life and property through the provision of fire rescue and emergency medical services. This District offers a high level of service to our mountain community and outlying areas and is made up of 49 full time and 9 part time and/or volunteer members.

X.4 Hazard Identification

Truckee FPD identified the hazards that affect the District and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to District (see Table X-3).

Table X-3 Truckee FPD—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Agriculture Pests and Diseases	Extensive	Occasional	Limited	Low	Medium
Avalanche	Limited	Occasional	Limited	Low	Medium
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Limited	Unlikely	Negligible	Medium	Medium
Drought & Water Shortage	Extensive	Occasional	Limited	Low	High
Earthquake	Extensive	Unlikely	Critical	High	Low
Floods: 1%/0.2% annual chance	Limited	Occasional	Limited	Medium	Medium
Floods: Localized Stormwater	Limited	Occasional	Negligible	Low	Medium
Landslides, Mudslides, and Debris Flows	Limited	Occasional	Negligible	Low	Medium
Levee Failure	Limited	Unlikely	Negligible	Low	Medium
Pandemic	Extensive	Likely	Critical	Medium	Medium
Seiche	Limited	Unlikely	Catastrophic	High	Medium
Severe Weather: Extreme Heat	Extensive	Unlikely	Limited	Low	High
Severe Weather: Freeze and Snow	Extensive	Highly likely	Limited	High	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Likely	Negligible	Low	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Likely	Negligible	Low	Low
Tree Mortality	Limited	Likely	Negligible	Low	High
Wildfire	Extensive	Likely	Catastrophic	High	High
<p>Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area Likelihood of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.</p> <p>Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact Climate Change Influence Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact</p>					

X.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

X.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section X.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard (as shown in Table X-3) affects the District and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

X.5.2. Vulnerability Assessment and Assets at Risk

This section identifies the District's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific, but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the Truckee FPD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition is further refined by separating out three classes of critical facilities:

Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery.

Class 2 facilities include those facilities that house Emergency Services capabilities.

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc.

Additional information on the three classes of critical facilities is described further in Section 4.3.1 of the Base Plan.

Table X-4 lists critical facilities and other District assets identified by the District Planning Team as important to protect in the event of a disaster. Truckee FPD's physical assets, valued at over \$48 million, consist of the buildings and infrastructure to support the District's operations.

Table X-4 Truckee FPD Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Which Hazards Pose Risk
Fire station 91	Administrative station	\$10 million	Wildfire, earthquake
Fire Station 92	Ambulance and Engine	\$10 million	Wildfire, earthquake
Fire Station 95	Ambulance and Engine	\$8 million	Wildfire, earthquake
Fire Station 96	Ambulance and Engine	\$10 million	Wildfire, earthquake
Fire Station 97	Ambulance and Engine	\$10 million	Wildfire, earthquake

Source: Truckee FPD

Populations Served

Also potentially at risk should the District be affected by natural hazard events are the populations served by the District. TFPD provides services to over 20,000 residents and thousands more visitors to the lakes, forests, campgrounds and ski areas. Additionally, services are provided to the users of the transcontinental railroad, Interstate 80, five area lakes and Truckee Tahoe Airport.

Natural Resources

Truckee FPD has a variety of natural resources of value to the District. These natural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Historic and Cultural Resources

Truckee FPD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Growth and Development Trends

General growth in the District parallels that of the Placer County Planning Area as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Current development is at its highest level in 15 years in the Truckee area including over 500 large single family residences that have been or being built in the Martis Camp and Coldstream subdivisions, multiple other multi-family units with 50-100 units each, many in-fill commercial and single family residences throughout the area. Other longer range developments are planned in the Donner Summit area and the area east of the Glenshire. All of the new and proposed developments are within the wildland urban interface.

Development since 2016

No District facilities have been constructed since 2016.

Future Development

The District has no control over future development in areas the District services. Future development in these areas parallel that of the Tahoe Area of the Placer County Planning Area. The District Service area remains the same, however, construction of a new planned fire station (Station 90) is being considered, pending design and financing approval by the Board, with a goal to be completed by 2023. The station will be located near downtown Truckee and will serve that area and areas north of town. More general information on growth and development in Placer County as a whole can be found in “Growth and Development Trends” in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

X.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table X-3 as high or medium significance hazards. Impacts of past events and vulnerability of the District to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, critical facilities and infrastructure, populations at risk, and future development.

Climate Change

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state’s infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing. A recent study by a climate consultant showed Truckee is also experiencing increases of average temperatures similar to the rest of the state

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the District, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the District noted that climate change is of concern, no specific impacts of climate change could be recalled. The District and HMPC members did, however, note that in Placer County, the strength of storms does seem to be increasing and the temperatures seem to be getting hotter. Hotter temperatures, combined with recent drought conditions, exacerbates the potential for damaging wildfires and a longer fire season with the chance of more frequent fires.

Vulnerability to and Impacts from Climate Change

The California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California’s APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region’s economy

is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the majority of water used by the state. This information can be used to guide climate adaptation planning in the District and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation
- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire

A reduced snowpack could result in lower ski area and other recreational use and change the predictability of emergency call volume. This leads to a decrease in cost recovery and staffing challenges.

Conversely, increasing temperatures in the Sacramento Valley would likely drive more people to the cooler Truckee area with lakes and rivers. This could result in a dramatic increase in visitors, call volume and no corresponding funding mechanism putting significant stress on the system.

Assets at Risk

The District noted that its facilities will most likely not be at risk from climate change.

Dam Failure

Likelihood of Future Occurrence–Unlikely

Vulnerability–Medium

Hazard Profile and Problem Description

Dams are manmade structures built for a variety of uses including flood protection, power generation, agriculture, water supply, and recreation. When dams are constructed for flood protection, they are usually engineered to withstand a flood with a computed risk of occurrence. For example, a dam may be designed to contain a flood at a location on a stream that has a certain probability of occurring in any one year. If prolonged periods of rainfall and flooding occur that exceed the design requirements, that structure may be overtopped or fail. Overtopping is the primary cause of earthen dam failure in the United States.

Location and Extent

Dam failure is a natural disaster from two perspectives. First, the inundation from released waters resulting from dam failure is related to naturally occurring floodwaters. Second, a total dam failure would most probably happen as a consequence of the natural disaster triggering the event, such as an earthquake. There is no scale with which to measure dam failure. However, Cal DWR Division of Safety of Dams (DOSD) assigns hazard ratings to dams within the State that provides information on the potential impact should a

dam fail. The following two factors are considered when assigning hazard ratings: existing land use and land use controls (zoning) downstream of the dam. Dams are classified in four categories that identify the potential hazard to life and property: Low, Significant, High, and Extremely High. These were discussed in more detail in Section 4.3.9 of the Base Plan.

While a dam may fill slowly with runoff from winter storms, a dam break has a very quick speed of onset. The duration of dam failure is generally not long – only as long as it takes to empty the reservoir of water the dam held back. The District would be affected for as long as the flood waters from the dam failure took to drain downstream.

The District also noted that, while inundation data was not available, the following dams are also a concern to the District. Lake Tahoe and the Truckee River that could affect 10-15 homes along the river in the District, in Placer County, and continue to create significant critical infrastructure damage throughout the Truckee River corridor. Martis Lake Dam, Prosser Dam, Boca Dam and Stampede Dam could affect 20 homes in the community of Hirshdale and damage critical road and power infrastructure. The Donner Lake Dam could affect critical road and power infrastructure as well as flood a nearby residential trailer park with 94 residences.

Past Occurrences

There has been no federal or state disaster declarations for dam failure in the County. The District noted no other dam failure occurrences that have affected the District.

Vulnerability to and Impacts from Dam Failure

Dam failure flooding would vary by community depending on which dam fails and the nature and extent of the dam failure and associated flooding. Impacts to the District from a dam failure flood could include loss of life and injury, flooding and damage to property and structures, damage to critical facilities and infrastructure, loss of natural resources, and all other flood related impacts. Additionally, mass evacuations and associated economic losses can also be significant.

A failure from Lake Tahoe could impact the Truckee River which could affect 10-15 homes along the river in the District, and continue to create significant critical infrastructure damage throughout the Truckee River corridor. Martis Lake Dam, Prosser Dam, Boca Dam and Stampede Dam could affect 20 homes in the community of Hirshdale and damage critical road and power infrastructure. The Donner Lake Dam could affect critical road and power infrastructure as well as flood a nearby residential trailer park with 94 residences. These dams all affect the Truckee River which flows into densely populated Reno, Nevada and would likely have a significant impact.

Assets at Risk

No District assets (from Table X-4) are at risk from this hazard.

Earthquake

Likelihood of Future Occurrence–Unlikely

Vulnerability–High

Hazard Profile and Problem Description

An earthquake is caused by a sudden slip on a fault. Stresses in the earth's outer layer push the sides of the fault together. Stress builds up, and the rocks slip suddenly, releasing energy in waves that travel through the earth's crust and cause the shaking that is felt during an earthquake. Earthquakes can cause structural damage, injury, and loss of life, as well as damage to infrastructure networks, such as water, power, gas, communication, and transportation. Earthquakes may also cause collateral emergencies including dam and levee failures, seiches, hazmat incidents, fires, avalanches, and landslides. The degree of damage depends on many interrelated factors. Among these are: the magnitude, focal depth, distance from the causative fault, source mechanism, duration of shaking, high rock accelerations, type of surface deposits or bedrock, degree of consolidation of surface deposits, presence of high groundwater, topography, and the design, type, and quality of building construction.

Location and Extent

The amount of energy released during an earthquake is usually expressed as a magnitude and is measured directly from the earthquake as recorded on seismographs. An earthquake's magnitude is expressed in whole numbers and decimals (e.g., 6.8). Seismologists have developed several magnitude scales, as discussed in Section 4.3.11 of the Base Plan. Placer County itself is traversed by a series of northwest-trending faults, called the Foothill Fault Zone, that are related to the Sierra Nevada uplift. This was the source of Oroville's 1975 earthquake (and an earlier event in the 1940s). Subsequent research of these events led to the identification and naming of the zone and questions about the siting and design of the proposed Auburn Dam. Earthquakes on nearby fault segments in the zone could be the source of ground shaking in the Placer County Planning Area.

Although portions of western and eastern Placer County are located in a seismically active region, no known faults actually go through any of the cities or towns. However, the Bear Mountain and the Melones faults are situated approximately three to four miles west and east of the City of Auburn respectively. Earthquakes on these two faults would have the greatest potential for damaging buildings in Auburn, especially the unreinforced masonry structures in the older part of the city and homes built before 1960 without adequate anchorage of framing and foundations. Similar lower magnitude but nearby earthquakes are capable of producing comparable damages in other Placer County communities.

Another measure of earthquake severity is intensity. Intensity is an expression of the amount of shaking at any given location on the ground surface. Seismic shaking is typically the greatest cause of losses to structures during earthquakes. The District is located in an area significant seismic activity. Seismic shaking maps for the area show eastern Placer County and the District falls within a moderate shake risk.

Past Occurrences

There have been no past federal or state disaster declarations from this hazard. The District noted no past occurrences of earthquakes or that affected the District in any meaningful way.

Vulnerability to and Impacts from Earthquake

The combination of plate tectonics and associated California coastal mountain range building geology generates earthquake as a result of the periodic release of tectonic stresses. Placer County lies in the center of the North American and Pacific tectonic plate activity. There have been earthquakes as a result of this activity in the historic past, and there will continue to be earthquakes in the future of the California north coastal mountain region.

Fault ruptures itself contributes very little to damage unless the structure or system element crosses the active fault; however, liquefaction can occur further from the source of the earthquake. In general, newer construction is more earthquake resistant than older construction due to enforcement of improved building codes. Manufactured buildings can be very susceptible to damage because their foundation systems are rarely braced for earthquake motions. Locally generated earthquake motions and associated liquefaction, even from very moderate events, tend to be more damaging to smaller buildings, especially those constructed of unreinforced masonry (URM) and soft story buildings. There is no masonry constructed buildings in the Placer County portion of our District. Mostly residential homes are built for snowload and to recent earthquake standards. There is no masonry constructed buildings in the Placer County portion of our District. Mostly residential homes are built for snowload and to recent earthquake standards. However, all of the District Fire Stations have been built over 20 years ago and would likely sustain significant damage in an earthquake.

The Uniform Building Code (UBC) identifies four seismic zones in the United States. The zones are numbered one through four, with Zone 4 representing the highest level of seismic hazard. The UBC establishes more stringent construction standards for areas within Zones 3 and 4. All of California lies within either Zone 3 or Zone 4. The Truckee FPD is within the less hazardous Zone 3.

Impacts from earthquake in the District will vary depending on the fault that the earthquake occurs on, the depth of the earthquake strike, and the intensity of shaking. Large events could cause damages to infrastructure, critical facilities, residential and commercial properties, and possible injuries or loss of life. The District would likely sustain damage to fire stations and would initially have difficulty egressing the garages with apparatus. Also, with 70% of the staff and their family living in the District there could be an anticipated disruption of staffing initially.

Assets at Risk

All the fire stations listed in the table are at some level of risk, similar to any 20 year old structure. However, generally they have been well built for snow load and it is estimated that it would take a significant event to cause major damage.

Flood: 1%/0.2% Annual Chance

Likelihood of Future Occurrence—Occasional

Vulnerability—Medium

Hazard Profile and Problem Description

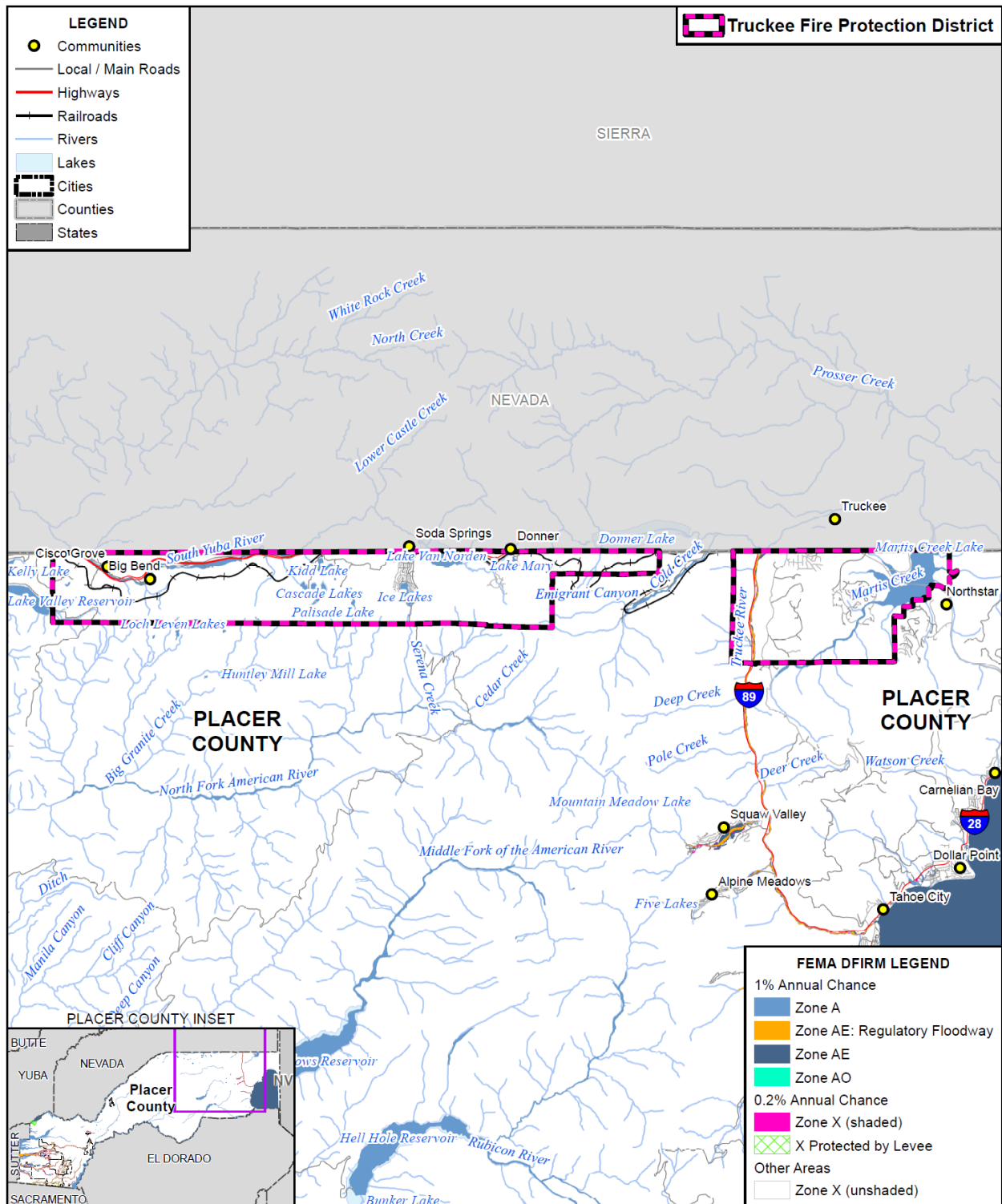
This hazard analyzes the FEMA DFIRM 1% and 0.2% annual chance floods. These tend to be the larger floods that can occur in the County or in the District, and have caused damages in the past. Flooding is a significant problem in Placer County and the District. Historically, the District has been at risk to flooding primarily during the winter and spring months when river systems in the County swell with heavy rainfall and snowmelt runoff. Normally, storm floodwaters are kept within defined limits by a variety of storm drainage and flood control measures. Occasionally, extended heavy rains result in floodwaters that exceed normal high-water boundaries and cause damage.

As previously described in Section 4.3.12 of the Base Plan, the Placer County Planning Area and the Truckee FPD have been subject to historical flooding.

Location and Extent

The Truckee FPD has small areas located in the 1% annual chance floodplain. This is seen in Figure X-2.

Figure X-2 Truckee FPD – FEMA DFIRM Flood Zones



Data Source: FEMA DFIRM 11/2/2018, Placer County GIS, Cal-Atlas, NVBLM; Map Date: 2021.

Table X-5 details the DFIRM mapped flood zones within the 1% annual chance flood zone as well as other flood zones located within the District.

Table X-5 Truckee FPD– DFIRM Flood Hazard Zones

Flood Zone	Description	Flood Zone Present in City of Auburn
A	1% annual chance flooding: No base flood elevations provided	X
AE	1% annual chance flooding: Base flood elevations provided	
AE Floodway	1% annual chance flood: Regulatory floodway; Base flood elevations provided	
AO	1% annual chance flooding: sheet flow areas. BFEs derived from detailed hydraulic analyses are shown in this zone.	
Shaded X	0.2% annual chance flooding: The areas between the limits of the 1% annual chance flood and the 0.2-percent-annual-chance (or 500-year) flood	
X Protected by Levee	Areas protected by levees from 1% annual chance flood event. Levee protection places these areas in the 0.2% annual chance flood zone.	
X (unshaded)	No flood hazard	X

Source: FEMA

Additionally, flood extents can generally be measured in volume, velocity, and depths of flooding. Expected flood depths in the District vary, depending on the nature and extent of a flood event; specific depths are unknown. Flood durations in the District tend to be short to medium term, or until either the storm drainage system can catch up or flood waters move downstream. Flooding in the District tends to have a shorter speed of onset, due to the amount of water that flows through the District.

Past Occurrences

A list of state and federal disaster declarations for Placer County from flooding is shown on Table X-6. These events also likely affected the District to some degree.

Table X-6 Placer County – State and Federal Disaster Declarations from Flood 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Flood (including heavy rains and storms)	16	1950, 1955, 1958 (twice), 1962, 1963, 1969, 1973, 1980, 1983, 1986, 1995 (twice), 1997, 2008, 2017	13	1955, 1958, 1962, 1964, 1969, 1983, 1986, 1995 (twice), 1997, 2006 (twice), 2017

Source: Cal OES, FEMA

In 96/97, there was a 100 year flood which caused the Truckee River to rise and caused damage to homes along the river. About 10-15 homes were affected in the Placer County portion. Also West end Donner

Lake had flooding of homes from Donner lake and area streams rising during flood events. No events have affected the District since 2016.

Vulnerability to and Impacts from Flood

Floods have been a part of the District's historical past and will continue to be so in the future. During winter months, long periods of precipitation and the timing of that precipitation are critical in determining the threat of flood, and these characteristics further dictate the potential for widespread structural and property damages. Predominantly, the effects of flooding are generally confined to areas near the waterways of the County. As waterways grow in size from local drainages, so grows the threat of flood and dimensions of the threat. This threatens structures in the floodplain. Structures can also be damaged from trees falling as a result of water-saturated soils. Electrical power outages happen, and the interruption of power causes major problems. Loss of power is usually a precursor to closure of governmental offices and community businesses. Roads can be damaged and closed, causing safety and evacuation issues. People may be swept away in floodwaters, causing injuries or deaths.

Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities as well as life safety issues. Floods can be extremely dangerous, and even six inches of moving water can knock over a person given a strong current. During a flood, people can also suffer heart attacks or electrocution due to electrical equipment short outs. Floodwaters can transport large objects downstream which can damage or remove stationary structures. Ground saturation can result in instability, collapse, or other damage. Objects can also be buried or destroyed through sediment deposition. Floodwaters can also break utility lines and interrupt services. Standing water can cause damage to crops, roads, foundations, and electrical circuits. Direct impacts, such as drowning, can be limited with adequate warning and public education about what to do during floods. Other problems connected with flooding and stormwater runoff include erosion, sedimentation, degradation of water quality, loss of environmental resources, and economic impacts.

In addition to the 15 homes near the Truckee river, flooding can cause isolated local flooding damage to roads and homes.

Assets at Risk

No District assets (from Table X-4) are at risk from this hazard.

Pandemic

Likelihood of Future Occurrence–Likely

Vulnerability–Medium

Hazard Profile and Problem Description

According to the World Health Organization (WHO), a disease epidemic occurs when there are more cases of that disease than normal. A pandemic is a worldwide epidemic of a disease. A pandemic may occur when a new virus appears against which the human population has no immunity.

A pandemic occurs when a new virus emerges for which people have little or no immunity, and for which there is no vaccine. This disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time. The U.S. Centers for Disease Control (CDC) and Prevention has been working closely with other countries and the WHO to strengthen systems to detect outbreaks of that might cause a pandemic and to assist with pandemic planning and preparation. An especially severe pandemic could lead to high levels of illness, death, social disruption, and economic loss.

Location and Extent

During a pandemic, the whole of the District, County, and surrounding region is at risk, as pandemic is a regional, national, and international event. The speed of onset of pandemic is usually short, while the duration is variable, but can last for more than a year as shown in the 1918/1919 Spanish Flu. There is no scientific scale to measure the magnitude of pandemic. Pandemics are usually measured in numbers affected by the pandemic, and by number who die from complications from the pandemic.

Past Occurrences

There has been one state and federal disaster declaration due to pandemic, as shown in Table X-7.

Table X-7 Placer County – State and Federal Pandemic Disaster Declarations 1950-2020

Disaster Type	Federal Declarations		State Declarations	
	Count	Years	Count	Years
Pandemic	1	2020	1	2020

Source: Cal OES, FEMA

The 20th century saw three outbreaks of pandemic flu.

- The 1918-1919 Influenza Pandemic (H1N1)
- The February 1957-1958 Influenza Pandemic (H2N2)
- The 1968 Influenza Pandemic (H3N2)

To date, the 21st century has seen two acknowledged pandemics.

- 2009 Swine Flu (H1N1)
- 2019/2020 COVID 19

The District maintained services during the pandemic which created frequent staffing shortages, need for PPE, and various medical services including testing. However, the District was able to maintain emergency response standards to date.

Vulnerability to and Impacts from Pandemic

Pandemics have and will continue to have impacts on human health in the region. A pandemic occurs when a new virus emerges for which there is little or no immunity in the human population; the virus causes serious illness and spreads easily from person-to-person worldwide. There are several strategies that public health officials can use to combat a pandemic. Constant surveillance regarding the current pandemic, use

of infection control techniques, and administration of vaccines once they become available. Citizens can help prevent the spread of a pandemic by staying home, or “self-quarantining,” if they suspect they are infected. Pandemic does not affect the buildings, critical facilities, and infrastructure in the District. Pandemic can have varying levels of impact to the citizens of the District and greater County, depending on the nature of the pandemic.

Impacts could range from school and business closings to the interruption of basic services such as public transportation, health care, and the delivery of food and essential medicines. Hospitalizations and deaths can occur, especially to the elderly or those with pre-existing underlying conditions. As seen with Covid-19, multiple businesses were forced to close temporarily (some permanently), and unemployment rose significantly. Supply chains for food and essentials can be interrupted.

The biggest concern the District had was to maintain a healthy workforce that would be able to provide fire, EMS and rescue services to the public. The District anticipated the worst-case scenarios and worked with local and broader organizations to plan for contingencies like an extreme staffing shortage. To date the

Assets at Risk

Pandemics do not affect District facilities, but can affect District personnel who operate District facilities.

Seiche

Likelihood of Future Occurrence—Unlikely

Vulnerability—High

Hazard Profile and Problem Description

U.S. Army Corps of Engineers defines seiche as:

- A standing wave oscillation of an enclosed water body that continues, pendulum fashion, after the cessation of the originating force, which may have been either seismic or atmospheric.
- An oscillation of a fluid body in response to a disturbing force having the same frequency as the natural frequency of the fluid system. Tides are now considered to be seiches induced primarily by the periodic forces caused by the sun and moon.
- In the Great Lakes area, any sudden rise in the water of a harbor or a lake whether or not it is oscillatory (although inaccurate in a strict sense, this usage is well established in the Great Lakes area).

Seiches can be generated when the water is subject to changes in wind or atmospheric pressure gradients or, in the case of semi-enclosed basins, by the oscillation of adjacent connected water bodies having a periodicity close to that of the seiche or of one of its harmonics. Other, less frequent causes of seiches include heavy precipitation over a portion of the lake, flood discharge from rivers, seismic disturbances, submarine mudslides or slumps, and tides. The most dramatic seiches have been observed after earthquakes and large landslide events.

Location and Extent

Within Placer County, locations with the highest probability of impact are shore areas of Lake Tahoe from 0 to 30 feet above mean lake water level. Speed of onset of seiche is short. The duration of the event tends to be short as well, continuing until the waves naturally dissipate.

Past Occurrences

There have been no state or federal disasters in the County related to seiche. No events of past seiche have affected the District.

Vulnerability to and Impacts from Seiche

Research from the University of Nevada estimates that an earthquake must be at least a magnitude 6.5 to cause a damaging seiche at Lake Tahoe. The two faults directly underneath the lake are considered capable of generating magnitude 7.1 earthquakes. Computer models of seiche activity at Lake Tahoe prepared by the University of Nevada research team estimate that waves as high as 30 feet could strike the shore. These projections suggest largest waves might hit Sugar Pine Point, Rubicon Point and the casinos in South Lake Tahoe. The seiche risk is potentially devastating as hundreds of houses are built along the lake and more than 17,000 people enjoy the Lake Tahoe shoreline every day in the summer.

Water coming over the dam could cause flooding and damage to the river properties 10-15 homes along SR 89. People, homes and vehicles near the river or in low lying areas in the District could be washed away by an event like this.

Assets at Risk

No District assets (from Table X-4) are at risk from this hazard.

Severe Weather: Freeze and Snow

Likelihood of Future Occurrence—Highly Likely

Vulnerability—High

Hazard Profile and Problem Description

According to the NWS and the WRCC, winter snowstorms can include heavy snow, ice, and blizzard conditions. Heavy snow can immobilize a region, stranding commuters, stopping the flow of supplies, and disrupting emergency and medical services. Accumulations of snow can collapse roofs and knock down trees and power lines. In rural areas, homes and farms may be isolated for days, and unprotected livestock may be lost. The cost of snow removal, damage repair, and business losses can have a tremendous impact on cities and towns.

Heavy accumulations of ice can bring down trees, electrical wires, telephone poles and lines, and communication towers. Communications and power can be disrupted for days until the damage can be

repaired. Power outages can have a significant impact on communities, especially critical facilities such as public utilities. Even small accumulations of ice may cause extreme hazards to motorists and pedestrians.

Some winter storms are accompanied by strong winds, creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chills. Strong winds accompanying these intense storms and cold fronts can knock down trees, utility poles, and power lines. Blowing snow can reduce visibility to only a few feet in areas where there are no trees or buildings. Serious vehicle accidents with injuries and deaths can result.

Location and Extent

Freeze and snow are regional issues, meaning the entire District is at risk to cold weather and freeze events. While there is no scale (i.e. Richter, Enhanced Fujita) to measure the effects of freeze, the WRCC reports that in a typical year, minimum temperatures fall below 32°F on 209.0 days with 0.4 days falling below 0°F in eastern Placer County. Snowfall is measured in depths, and the WRCC reports that average snowfall on the eastern side of the County is 190.7 inches. Freeze and snow has a slow onset and can generally be predicted in advance for the County. Freeze events can last for hours (in a cold overnight), or for days to weeks at a time. Snow event can last for hours or days, and the snow stays all winter in the eastern portion of the County, often with significant snow depths.

Past Occurrences

There has been no federal and one state disaster declarations in the County for freeze and snow, as shown on Table X-8.

Table X-8 Placer County – State and Federal Disaster Declarations from Freeze and Snow 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Freeze	1	1972	0	–

Source: Cal OES, FEMA

The District noted that cold and freeze is a regional phenomenon; events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.3. The District also noted the following events:

82/83, 92/93, 2002/03, 2010/11. Heavy snow or rain on snow caused damage to homes and infrastructure during each of these winters. During 2010/11 over 50 homes had major propane gas leaks into the snow and caused evacuation of the area and long term mitigation efforts throughout the winter. One home exploded and others were damaged from the snow.

In **January and February of 2017**, an atmospheric river dumped high amounts of snow in the District. Record snowfalls causing avalanches, widespread power outages, infrastructure damage and localized flooding. This occurred throughout the Sierra including Truckee area. The District noted deck and structure damage, as well as power infrastructure damage in the area. Large number of trees down in the forest and

across roadways caused issues for transportation in the area. Multiple road closures occurred, with people trapped in Truckee area. Resorts and business were shut down due to power loss and high snow fall.

January 2021 – three feet of snow fell in the District. This caused transportation issues in and through the District area.

Vulnerability to and Impacts from Severe Weather: Freeze and Snow

The District experiences temperatures below 32 degrees during the winter months. Freeze can cause injury or loss of life to residents of the District. While it is rare for buildings to be affected directly by freeze, damages to pipes that feed building can be damaged during periods of extreme cold. Freeze and snow can occasionally be accompanied by high winds, which can cause downed trees and power lines, power outages, accidents, and road closures. Transportation networks, communications, and utilities infrastructure are the most vulnerable physical assets to impacts of severe winter weather in the County. During extreme winter events, response times to emergencies may be extended. During events like these, call volume can increase dramatically stressing resources. Also, they are typically coupled with poor or impossible driving conditions making getting to emergency calls in a timely fashion challenging.

Heavy Snow and Power Shortage/Power Failure

The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power disruptions can be found in Section 4.3.2 of the Base Plan.

Assets at Risk

No District assets (from Table X-4) are at risk from this hazard.

Wildfire

Likelihood of Future Occurrence–Likely

Vulnerability–Extremely High

Hazard Profile and Problem Description

Wildland fire and the risk of a conflagration is an ongoing concern for the Truckee FPD. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within

them. Where there is human access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel, accumulation of vegetation, and high winds. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas.

Location and Extent

Wildfire can affect all areas of the District. CAL FIRE has estimated that the risk varies across the District and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the Truckee FPD were created. Figure X-3 shows the CAL FIRE FHSZ in the District. As shown on the maps, fire hazard severity zones within the District range from Moderate to Very High.

[illegible]

Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more.

Past Occurrences

There has been five state and six federal disaster declarations for Placer County from fire. These can be seen in Table X-9.

Table X-9 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

Only small, few acre fires occur at most in our Placer areas. Last fire was the King 2014 and the American 2013 that were within 10 miles of our Placer area (Serene Lakes). All of the residential and commercial structures in the Truckee area are in the wildland urban interface and are at risk from a catastrophic fire event.

Every season smoke from large fire affects the Truckee area often for months at a time. The District responded to 20-30 smaller wildland fires each season, any one of which could become a destructive fire in the right conditions. Last season (2020) the area also had a record number of red flag days almost double the average at 15. The District participates in the Statewide mutual aid system and responded to 5 major fires in the state and had resources deployed for months in 2020.

Vulnerability to and Impacts from Wildfire

Risk and vulnerability to the Placer County Planning Area and the District from wildfire is of significant concern, with some areas of the Planning Area being at greater risk than others as described further in this section. High fuel loads in the Planning Area, combined with a large built environment and population, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and potentially catastrophic fires. During the nearly year around fire season, the dry vegetation and hot and sometimes windy weather results in an increase in the number of ignitions. Any fire, once ignited, has the potential to quickly become a large, out-of-control fire. As development continues throughout the County and the District, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Potential impacts from wildfire include loss of life and injuries; damage to structures and other improvements, natural and cultural resources, croplands, and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the District. Fires can have devastating effects on watersheds through loss of vegetation and soil erosion, which may impact the District by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading

water quality. Fires can also affect air quality in the District; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from large fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in a loss of function of buildings and infrastructure. Economic impacts of loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate PSPSs which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2 of the Base Plan. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

The District sees a large number of visitors here for leisure and recreations often not aware of the severe hazard conditions. This coupled with outdoor activities like fireworks, campfires and BBQ's the Truckee area is vulnerable to a large wildfire.

Assets at Risk

All of the District assets are in the WUI and are at risk of being damaged or destroyed in a wildland fire.

X.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, and mitigation education, outreach, and partnerships.

X.6.1. Regulatory Mitigation Capabilities

Table X-10 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the Truckee FPD.

Table X-10 Truckee FPD Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan/General Plan	N	
Capital Improvements Plan	N	New facilitates built to the newest safety standards
Economic Development Plan	N	

Local Emergency Operations Plan	Y	Town of Truckee Plan, no mitigation
Continuity of Operations Plan	N	
Transportation Plan	N	
Stormwater Management Plan/Program	N	
Engineering Studies for Streams	N	
Community Wildfire Protection Plan	In progress	Complete in 2016
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)	N	
Building Code, Permitting, and Inspections	Y/N	Are codes adequately enforced?
Building Code	Y	Version/Year: Town of Truckee, Placer Co, Nevada Co. It is adequately enforced
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire department ISO rating:	Y	Rating: 4
Site plan review requirements	Y	WUI
		Is the ordinance an effective measure for reducing hazard impacts?
Land Use Planning and Ordinances	Y/N	Is the ordinance adequately administered and enforced?
Zoning ordinance	N	
Subdivision ordinance	N	
Floodplain ordinance	N	
Natural hazard specific ordinance (stormwater, steep slope, wildfire)	Y	Wildfire and WUI management of property
Flood insurance rate maps	N	
Elevation Certificates	N	
Acquisition of land for open space and public recreation uses	N	
Erosion or sediment control program	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
Continuing to encourage a robust local building and fire code helps reduce damage from many types of events		

Source: Truckee FPD

As indicated above, the District has several programs, plans, policies, and codes and ordinances that guide hazard mitigation. Some of these are described in more detail below.

Truckee Fire Evacuation Plan

Truckee Fire Protection District is a bi-county District that also encompasses the incorporated Town of Truckee. Truckee Fire follows the Placer, Nevada counties as well as the Town of Truckee evacuation plans. Each year the agencies meet to coordinate and exercise on the plan.

Fire Hydrant Snow Plan

The winter months bring a special concern to the citizens of Truckee, Donner Summit, and the Truckee Fire District. Winter storms often hide fire hydrants under a mountain of snow, making them impossible to find quickly. In the event of a fire, firefighters have to locate and clear hydrants of snow before they are able to connect hose and establish a water supply to aid in fighting fire. District crews stop at hydrants to clear them of snow. In most locations within the Fire District, hydrants are located 500 feet from one another. Because of the great number of hydrants located within the Fire District, it is virtually impossible to clear every hydrant of snow after each storm. The Fire District has adopted a strategic plan of which hydrants are to be cleared of snow after a snowstorm, depending on life-hazards and proximity to other hydrants which are maintained.

CWPP

Truckee Fire recently received a CAL FIRE grant to hire a consultant to develop a CWPP for the Truckee Fire Protection District. The process was started in the summer of 2015 and is expected to be completed by summer of 2016. Many local stakeholders are involved in the process including the USFS, CAL FIRE, various homeowner associations, State Parks, Town of Truckee, both counties, to name a few. The plan outlines and prioritizes the wildfire risk in the fire district and outlines various projects that will help mitigate the hazard.

The plan was completed, and work outlined in the plan commenced over the last 5 years. The District was awarded over 3 million dollars in grants to do various fuel reduction projects. Currently the District is considering a wildfire measure to raise a sustainable revenue source to do significant fuels reduction work. Prior to beginning work the CWPP will be updated in 2022 to identify a 5-10 year list of fuel reduction projects and wildfire mitigation work.

X.6.2. Administrative/Technical Mitigation Capabilities

Table X-11 identifies the District department(s) responsible for activities related to mitigation and loss prevention in FPD. **FILL OUT LAST CELL**

Table X-11 Truckee FPD's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission	N	
Mitigation Planning Committee	N	
Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	In-house forest and WUI experts that inspect residential and commercial properties
Mutual aid agreements	N	
Other	N	

Staff	Y/N FT/PT	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	Y	Town of Truckee and County has these offices and coordinates well with TFPD
Floodplain Administrator	N	Town
Emergency Manager	Y	Town and Fire Department
Community Planner	Y	Town
Civil Engineer	Y	Town
GIS Coordinator	N	
Other		
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	Y	Town of Truckee and both Counties have abilities to communicate with the public. The Fire District can communicate via Nixle
Hazard data and information	Y	Town
Grant writing	Y	TFPD
Hazus analysis	Y	Town
Other		
How can these capabilities be expanded and improved to reduce risk?		
PROVIDE SPECIFIC DETAILS OF AREAS FOR IMPROVEMENT OF THESE TYPES OF CAPABILITIES AND HOW/WHY IT WILL HELP THE DISTRICT		

Source: Truckee FPD

X.6.3. Fiscal Mitigation Capabilities

Table X-12 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table X-12 Truckee FPD's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	N	
Authority to levy taxes for specific purposes	Y	With 2/3 vote.
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	Y	Mitigation fees have supported fire station improvement and additional apparatus
Storm water utility fee	N	
Incur debt through general obligation bonds and/or special tax bonds	N	
Incur debt through private activities	N	

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Community Development Block Grant	N	
Other federal funding programs	Y	
State funding programs	Y	
Other		
How can these capabilities be expanded and improved to reduce risk?		
A local source of revenue from a parcel tax would allow the District to do on-going significant fuel reduction work in the WUI		

Source: Truckee FPD

X.6.4. Mitigation Education, Outreach, and Partnerships

Table X-13 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table X-13 Truckee FPD's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.	Y	The District started a CERT team with over 100 members over the last 5 years.
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)	Y	Various community educational programs including community events and annual school fire safe program
Natural disaster or safety related school programs	Y	School fire safety
StormReady certification	N	
Firewise Communities certification	N	The District has facilitated the creation of over 20 Firewise Communities in the last 5 years
Public-private partnership initiatives addressing disaster-related issues	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The CERT program has recently developed a 2 hour Personal Emergency Preparedness program (PEP) that they are delivering to many HOAs and community groups to share the best practices of emergency preparedness		

Source: Truckee FPD

X.7 Mitigation Strategy

X.7.1. Mitigation Goals and Objectives

The Truckee FPD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

X.7.2. Mitigation Actions

The planning team for the Truckee FPD identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Dam Failure
- Earthquake
- Floods 1%/0.2% annual chance
- Pandemic
- Seiche
- Severe Weather: Freeze and Snow
- Wildfire

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

NEED MITIGATION ACTIONS THAT FOCUS ON THE LIST OF HAZARDS ABOVE. REMEMBER THAT ONE ACTION CAN COVER MORE THAN ONE HAZARD

Multi-Hazard Actions

Action 1.

Hazards Addressed:

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background:

Other Alternatives:

Existing Planning Mechanisms through which Action will be Implemented:

Responsible Office:

Priority (H, M, L):

Cost Estimate:

Potential Funding:

Benefits (avoided Losses):

Schedule: